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. EDITORIAL .

Business in Canada

In too many papers and magazines we read that conditions are good or perhaps not so good, or perhaps even bad in this country. If one would stop and think just a moment one cannot, surely, form a conclusion of the state of things in Canada in one, or even in a few words. In order to emphasize this fact and to suggest a sound approach to Canadian economy, let us examine a few cases that anyone, even you, from any point, might with some analysis, visualize.

The point of view is directly tempered by interest of the person doing the extemporizing. To illustrate, let us assume that the question to be submitted is: "Do you expect a period of large-scale unemployment in the next ten years, as the result of an extended major depression?"

The small business man whose sphere of operations extends to the limits of his small town, in the centre, in the west, in the east, or any place in this Canada, will doubtless say, "I have been in business for many years and while rationing and shortages happened, we always have made a living. This little town has never known a depression and we feel that we shall be doing business at this same stand in ten years and make a fair living in the meantime."

Any local business or service business person might express a similar opinion. The manufacturer or wholesaler who does business over a greater field of a county but not including any large cities, might have a less favourable comment which could be something such as, "Business will improve until all the consumers', retailers', wholesalers' and suppliers' stocks are sufficient to meet the demands of normal living conditions in this territory. That will take quite a few years and good continued business conditions should last for ten years, during which there will be no abnormal depression or periods of definite unemployment. We are not subject to strikes in this territory."

There are many classes of business through the volumes up to the large exporting concerns. The view point in some large industries does not extend through 1948. However, in answer to the question stated above, from the country as a whole, a usrvey might result in a "YES" by 50%, "NO" by 35%, and the balance of 15% could be "Not interested" or "We don't know".

It has been experienced that in many surveys at least one-sixth of those contacted give unreliable information, are not interested or do not know. Taking this group out of the survey statistics, the balance can still provide some interesting points of view.

The stock market trend, according to average opinion, for this year is two to one, that there will be some change. By replacement of groups it indicated that it is two to one that the market will go lower, while it is

also two to one that there will be a rising market. This is democratic opinion and, as mentioned above, coming from all over Canada, can well be expected to vary according to the locality in which the opinion is being formed.

How do you view your company's profit potentiality, net income after taxes, for 1947, compared with that in 1946? In Canada the over-all guess in the majority anticipates an increase in 1947. To this question, less than ten percent expect to take a loss.

Production this year, for a number of reasons is expected to better that of last year. Less than five percent look for reduced production.

Naturally, sales are also expected to beat 1946 volume, taking into consideration relaxation of controls, increased prices, and other related factors.

Opinion in regard to 1947 Prices begins to reflect trends according to commodities. While many believe that this year's prices will be higher, still about half the executives feel that the factors of increased costs will be met by off-setting savings in various ways, the chief of which is production efficiency and design of product changes for similar reasons, which will keep prices, generally, at about the same level.

Cost of raw maetrials is also subject to commodity production. Here, while the majority are providing for increases, a good proportion, around one-third in some cases, suggest that they expect a downward movement of these prices as we get well into 1947.

Wages are higher for 1947 and the natural result is that labour costs will be higher. There is, however, a strong indication that there is a very definite endeavour being made to keep labour costs, by production changes, down, so that operating margins will be maintained.

There is a strong feeling that, in this year, farm prices will tend to ease. This is one of the basic factors in the improvement of living costs.

Reconversion programs are largely accomplished and with the encouragement given by the government in "machinery and complete parts", our capital equipment is now in condition to support volume production.

While the heavy industries still have a large back log of orders on hand, the smaller commodities and food industries should be well along to normal by the end of this year, with a normal crop.

Having reviewed a number of factors in the business of this year, it is interesting to examine the opinions on the overall picture of business in general in 1947. Very few have indicated a violent recession, about seventy-five percent have indicated an "as good as" or "slightly downward" trend. Only about one-quarter definitely state that there should be an improvement this year. This must also be tempered by the locality and the commodity involved in the business strata, between the producer and the retailer.

How can we interpret this in our business? It would seem that, if we desire our share of this year's profitable trade, we shall have to budget our "break-even" point as our target and then raise our sights to the point where our operations will leave a FAIR AND REASONABLE PROFIT. The more we take that path, the sooner we will be able to reach a NORMAL TRADE POSITION.

The Domestic Versus Export Trade Situation

The economic law of supply and demand is expected to follow this year's conclusion of relief projects. There will be a foreign trade adjustment lag. This should not be a recession, but on the other hand, it will give industry a good opportunity to supply the domestic demand before the really worthwhile export trade is developed. Foreign exchange funds are in demand but the loan pump priming for funds must ultimately be replaced by honestly earned exchange.

Cost accounting responsibilities, and also opportunities to demonstrate executive stature, have never been greater and more favourable than those offered in this year 1947.

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New Members

Hamilton Chapter

Michael J. Fitzmaurice, Jobborn Mfg. Co. Ltd.

Kent County Chapter

A. B. Cousins, Wallaceburg Brass Ltd., Wallaceburg (Transferred from Windsor Chapter).

C. G. Gliddon, Wallaceburg Brass Ltd., Wallaceburg. (Transferred from Windsor Chapter).

Ruth Harte, Pioneer Hi-Bred Corn Co. of Canada Ltd., Tilbury. (Transferred from Windsor Chapter).

Wm. Jordon, R.I.A., Dominion Glass Co. Ltd., Wallaceburg. (Transferred from Windsor Chapter).

Lyle Patterson, The American Pad & Textile Co., Chatham. (Transferred from Windsor Chapter).

P. R. Pearson, C.P.A., Pearson, Edwards & Co., Chatham. (Transferred from Windsor Chapter).

Roy E. Randale, Ontario Dept. of Agriculture, Wallaceburg. (Transferred from Windsor Chapter).

J. E. Taylor, Sunnen Products Co. Ltd., Chatham. (Transferred from Windsor Chapter).

N. G. Wright, Public Accountant, Chatham. (Transferred from Windsor Chapter).

C. Ross Eberlee, Sunnen Products Co. Ltd., Chatham.

E. F. Cummings, American Pad & Textile Co., Chatham.

Harold C. Van Delinder, National Pressure Cooker Company (Canada) Ltd., Wallaceburg.

Glenn H. Davidson, Canadian Industries Ltd., Chatham.

C. L. Ketchebaw, Chatco Steel Products Ltd., Chatham.

Kitchener Chapter.

Ronald F. Gies, B. F. Goodrich Co. Ltd.

London Chapter

Geo. W. Lockhart, Wm. Stone & Sons Ltd., Ingersoll.

Montreal Chapter

Chas. Miller, Beauharnois Light, Heat & Power, Beauharnois, Que.

Kelowna Chapter

Carl W. Schmok, Interior Vegetable Marketing Agencies, Kelowna, B.C.

Geo. H. McKay, R. G. Rutherford & Co., Kelowna, B.C.

Robert M. McKenzie, Drs. Urquhart & Wilson, Kelowna, B.C.

Jas. D. Monteith, Kelowna Builders Supply Ltd., Kelowna, B.C.

Robert R. Hamilton, Growers Supply Co. Ltd., Kelowna, B.C.

Jas. S. Gibb, D. Chapman & Co. Ltd., Kelowna, B.C.

Carl E. Brannan, City of Kelowna, B.C.

Daniel Curell, Rowcliffe Canning Co. Ltd., Kelowna, B.C.

D. S. Buckland, Okanagan Packers Co-op Union, Kelowna, B.C.

R. N. Foote, B.C. Tree Fruits Ltd., Kelowna, B.C.

E. A. Campbell, C.A., 102 Radio Bldg., Kelowna, B.C.

B. M. Millner, R. G. Rutherford & Co., Kelowna, B.C.
G. E. Brown, B.C. Tree Fruits Ltd., Kelowna, B.C.
C. E. R. Bazett, C.A., R. G. Rutherford & Co., Kelowna, B.C.
Geo. T. Jewell, Interior Vegetable Marketing Agencies, Kelowna, B.C.

Toronto Chapter

J. M. Otterbein, North American Life Assurance Co. Ltd.
C. Basil Barnes, Purity Flour Mills Ltd.

Windsor Chapter

Jas. P. Allen, City of Windsor, Windsor.

Non-Resident

Alec H. Ritcey, Brookfield Ice Cream Ltd., St. John's, Newfoundland.
John W. Nairn, Canada Packers Ltd., St. Boniface, Manitoba.
Leonard . Greenberg, Tiger Oats & National Milling Co. Ltd., Johannesburg, South Africa.
Earl R. McDonald, Canada Packers Ltd., Crystal City, Manitoba.
Walter Kent, Midland Shipyards Ltd., Midland, Ontario.

Chapter Standings for Fernie Trophy

	Basic Points	Increase In Senior Members	Increase In Student Members	Points Increase	Percentage Increase
St. Maurice Valley	42	11	4	26	61.9
Victoria	36	3	11	17	47.2
Kingston	49	1	18	20	40.8
Vancouver	125	6	16	28	22.4
Lethbridge	27	0	6	6	22.2
Ottawa	83	4	8	16	19.3
Niagara	86	5	6	16	18.6
Hamilton	302	—1	56	54	17.9
Bayof Quinte	35	2	2	6	17.1
Fort William—Port Arthur	80	2	8	12	15.0
Toronto	406	7	28	42	10.3
Edmonton	136	2	10	14	10.3
Calgary	161	0	15	15	9.3
Windsor	154	6	2	14	9.0
Kitchener	122	1	6	8	6.6
Montreal	469	4	13	25	5.3
London	117	—3	11	5	4.3
Quebec City	83	0	1	1	1.2

Chapter Notes

CALGARY

Mr. Frank R. Freeze was guest speaker at our meeting of 14th February. Mr. Freeze has been one of Calgary's most prominent aldermen for a number of years and chose as his subject, "Calgary's Newest Civic Problems". This address took more the form of a "Fireside Chat" and those present acquired quite an insight into the problems which have faced the City Council in the past as well as those confronting them at the present time.

We had the pleasure of our Past-Chairman, "Pat" Bowsher, presenting a paper to us on our meeting of 26th February. The title to the paper was "Published Accounts and Their Contents", and all points to be taken into consideration when examining and analysing a Balance Sheet were very thoroughly explained to the members in attendance.

After the meeting a "Social Evening" was held at the home of the speaker and all those present had a very enjoyable time. It is hoped that we can arrange more of such evenings.

KENT COUNTY

The first regular meeting of the Kent County Chapter was held as a dinner-meeting on Monday, February 17th, at Wm. Pitt Hotel, Chatham. There were 55 present at this meeting, including a delegation from Windsor Chapter. The speaker of the evening, Mr. A. C. Thomson, speaking on the all interesting topic "The Future of Labor Legislation and Its Administration" was thoroughly versed in his topic, being a member of the Canadian Manufacturers' Association of Toronto. Mr. Nelson Allan, Secretary-Treasurer of the Society of Industrial & Cost Accountants of Ontario, gave an outline of the organization and educational work of the Society. The newly appointed executives were as follows: Mr. Alan Cousins, Chairman, and Miss Ruth Harte, Secretary-Treasurer.

KITCHENER

The sooner price controls are lifted the sooner prices will find their own level and more normalcy will return to business, W. C. Wood, president of the W. C. Wood Manufacturing Co. Ltd., Guelph, told a meeting of Kitchener Chapter, the Ontario Society of Industrial and Cost Accountants, at the Iroquois Hotel, Galt, recently.

Wages are out of line with high prices, Mr. Wood maintained in his talk on "Are We Thinking Right About Wages." He said there was too much disparity in the increases in wages being paid to skilled and unskilled labor. He was introduced by Norman Barfoot of Galt and the vote of thanks by J. C. Gross of Guelph. After his talk a discussion period was held. Mel Walker of Waterloo, chairman of Kitchener Chapter, presided.

R. S. M. Ausman, President of the Canadian Society of Cost Accountants and Industiral Engineers, paid his official visit and was greeted with a large turnout of members. Mr. Ausman reported on his trans-Canada visit to the various chapters and revealed that the membership now totals

over 2,000. He was introduced by S. E. Nicholson of Galt and thanked by J. R. Nethercott of Stratford.

The chapter received an invitation to attend a meeting of Hamilton Chapter, Thursday, February 20, when F. E. Wood, president of the Ontario Society, was the guest speaker. His subject was "The Post-War Field for Cost Accountants."

MONTREAL

Our two February dinner-meetings were well attended, although there are always some considerate souls who don't show up for fear of crowding their attending colleagues.

The first meeting housed the world premiere of the Income Tax Appeals Board.

The Company appellant—stung to the quick by the Department's lack of good taste in adding back to profits, among other sums, the cost of an orderly retreat to Mont Tremblant, prescribed for the Executives by the Matron in charge of personnel, in a well-meant attempt to restore their war-weary morale; and, worse still, an item of $25,000.00, discovered in the Company's petty cash and un-vouched as being a voluntary donation to a political slush fund—carried its grievances to the I.T.A.B., and Mr. Justice Wright. The results were most encouraging to future aggrieved tax-payers.

The second meeting on the 21st, introduced us to the Dominion President, Mrs. Ausman, and the Secretary-Manager, Mr. Allan. Their messages—of the growing importance of our Society, of new Chapters, of educational and research plans—sent us on our way really cheerful about the whole thing.

TORONTO

There was a very good attendance at the February meeting of this Chapter, held at the Oak Room, Union Station, on February 19th.

The guest speaker, H. J. Craddock, F.C.I., Aluminum Goods Limited, of Toronto, told a very interesting story of the Aluminum Industry, tracing it back to the time when aluminum was considered a semi-precious metal and explaining how persistent research and engineering had developed it to the point that it is in universal use to-day for so many purposes. Mr. Craddock's very interesting address was followed by a film, which showed the various processes through which bauxite passes before it becomes what in its finished state is known as aluminum.

The speaker was thanked on behalf of those present by V. A. Kerr, R.I.A., for having contributed so capably to the success of the meeting.

OTTAWA

The Ottawa Chapter was honoured at its February meeting by the presence of the Dominion President, Mr. R. S. M. Ausman, R.I.A., and the Secretary-Manager, Mr. J. N. Allan, R.I.A.

After a very delicious dinner, served by the chef at Mme. Henry Burger's Cafe, in Hull, Mr. Ausman was introduced to the members and guests.

The subject of Mr. Ausman's address was "The Industrial Accountant's

Role in Scientific Management". His opening remarks referred to our western friends, and their keen interest in the future of Cost Accounting, and announced that the growth of these chapters was most gratifying.

Mr. A. Taylor expressed the thanks of those present.

At the conclusion of Mr. Ausman's address, Mr. Allan spoke of the progress in the educational courses offered by the Society and of the important discussions held with the educational authorities during the trip to the Pacific Coast.

Arthur Hyndman presided over the meeting.

ST. MAURICE VALLEY CHAPTER

The St. Maurice Valley Chapter had an exceptionally active month during February. Officers of the Cost and Management Institute and the parent society, The Canadian Society of Cost Accountants and Industrial Engineers, were well received at each of two Chapter meetings. The first was held on February 12th when Mr. Chas. P. Dumas, M.C.I., L.M.C.I., Secretary of The Cost and Management Institute and 3rd Vice-President of The Canadian Society, spoke on the subject "Credit Information and Its Application". Mr. Dumas, being the Montreal manager of The Canadian Credit Men's Trust Association, is extremely well qualified to speak on his chosen subject. The importance of credit was emphasized when Mr. Dumas stated "that close to 90% of all business in Canada is done on credit". He defined credit as "the power to obtain goods or services against the promise of payment at a future date". Thus expressed, credit is neither capital nor wealth nor money, but only a means to obtain any or all three of these with a promise to pay for them at some future time.

On February 26th another well attended meeting welcomed Mr. R. S. M. Ausman, President of the Canadian Society. Mr. Ausman gave a very interesting and enthusiastic report on his visit to the sister Chapters of the Society and his report on the progress of the Society during the past year was most informative particularly to our guests. Mr. Ausman spoke on the subject of "The Industrial Accountant's Role in Scientific Management". In his address, Mr. Ausman drew attention to the fact that Industrial and Cost Accountants have a real opportunity and a challenge before them today in the awakening of management to the need for cost control. Mr. Ausman outlined various means by which the Cost Accountant can increase his value to management and the part he can play in placing business operations on a very sound basis.

The Chapter chairman, Mr. Henry Pike, presided at both meetings.

WINDSOR

Chairman Jack Copland introduced the speaker of the evening, Mr. L. M. Elliott, B.Sc., C.P.A., Controller of the McCord Corporation, Detroit, Michigan. Mr. Elliott spoke on the topic "Are Standard Costs Practical To-day". He pointed out many of the problems which have an important bearing on the determining of standard cost such as present day labour troubles, allowances for rest periods, overtime rates, and what reflections should be made in time standards for such factors. He also stressed that the accountant should present to management reports which

can be easily understood and that the prime requisite is to have accurate reports completed in the shortest possible time. An interesting discussion period followed after Mr. Elliott's speech, following which Reg. Millin thanked the speaker.

VICTORIA

Our February Dinner meeting at the Douglas Hotel on the 20th of February was well attended, a somewhat larger number of guests than usual, being present.

The feature of the evening was a talk on "Trans-Pacific Trade" by Mr. V. E. Feimann, 1st Vice-President of the British Columbia Council at Vancouver.

Mr. Feimann stressed all the ramifications and problems connected with this Trade, some perplexing and others, judging by his audience's receptions, decidedly amusing.

Altogether a most instructive and entertaining address from one who thoroughly knew his subject from all angles.

Current Literature Digest

By HAROLD BRICKER, C.G.A., R.I.A.

The year end is over. But, it is now March and many firms are still busy on 1946 closing records. Joseph A. Dowling in the N.A.C.A. Bulletin says:

WHY WAIT UNTIL MARCH?

Now, please don't blame the shareholders' auditors, they are probably waiting on you. Once upon a time, (and for many accountants, it still is), the year end closing was a period of general dislocation, of unstinting preparation for the auditor, when all, or most all, current work was laid aside to make way for the respectful reception of the sacrament of CERTIFICATION. Every last, last corner was swept clean and then gone over again, just to be sure that no errant spot sullied the immaculacy of the corporate being. December was a month of feverish anticipation, January and February months of proving, exhibiting convincing. Then came March and the climax, the happy relief, when within the very correct covers of the coveted report, there was written for the interested to read . . . "we have examined . . . reviewed the system of internal control . . . by methods . . . we deemed appropriate . . . in our opinion . . . conformity with generally accepted accounting principles . . ."

How long has this been going on? But, how long will it go on?

Stock markets, banks, chain stores, manufacturers' agencies, and more and more wholesalers and manufacturers are producing statements of operating results, at the end of the year, and by the tenth to the fifteenth of

the following month. This applies especially to public corporations and the worst delinquent appear to be the family proprietorship businesses.

Why wait until March, while a quarter of the following year has passed, to learn the results of the business for the previous year? The office staff no doubt valiantly maintained that there are the responsibilities of matters such as reconciling the bank account and bank balances, confirming accounts receivable, of counting inventory, of gathering in every last dollar of debts payable, of posting and balancing subsidiary and general ledgers, for the preliminary closing, then a semifinal closing, a final closing, and then the adjusted final closing—all these and the accompanying details to be done "as of December 31st". Not to mention the published statement to be sent out to the shareholders with their report and certified statements therein. All this to be done after the mystical date of December 31st.

How soon may we hear it be said, "Away with all this suspense, let the 'end-figure' be known at once"!

Auditors' Co-operation.

Auditors will co-operate with any firm that is progressive enough to require prompt certifications. Most auditors prefer to cover the details during the year and agree that it is safe financially to take the inventory at November 30th to be confirmed to December 31st. Accounts Receivable can be safely confirmed at an earlier date.

Expenditures for capital assets could be vouched to December and reviewed to the year end. Accounts payable obligations could be gauged by inspection of the open order files, at the year end. Bank balances could be reconciled by the staff under the general supervision of the auditors. The propriety and adequacy of the reserves could be evaluated before the year end.

The list of these and similar plannings could be extended, but there is a conclusion in stating that it is not necessary to wait until the end of the year before beginning the verifications essential to auditing. We can be thankful that auditors can be flexible in their methods while retaining rigidity of principle.

While this may be guilty of exaggeration or oversimplification, nothing has been suggested toward several weeks of planning all the details of final closing, writing instructions and anticipating "bottle necks."

If we admit that timeliness of accounting documents is "of the very essence", then the publication of the annual report within a month or less after the end of the year is more than merely a desirable objective. THIS IS A REAL AND MODERN NECESSITY.

DO COST ACCOUNTANTS EXHIBIT "PROFESSIONAL WISDOM"?

The Accountants' Magazine relates a comment in an address of the President of the Institute, in some of the following words: He referred to a "Triad" found in old literature of the Welsh. This covers the three foundations of wisdom, namely: Youth to acquire learning; memory to retain learning; genius to illustrate learning.

The first two of these you evidently possess. The third may be descirbed as the spirit which will enable you to show the world that you have the character necessary to make the best use of the learning which

you have acquired. This is no light burden, and although you have passed one very important stage in your careers, the future of our great profession will depend not only on your knowledge, but upon the way in which you are able to rise to the responsibilities which you are now about to undertake.

Those who practise a profession as distinct from a trade are on some occasions apt to give themselves airs on that account. It is not out of place, therefore, to remind ourselves what a profession is. When addressing a meeting of the London Students' Society many years ago, Sir John (now Lord) Simon, said that a "profession" was very difficult to define, but he thought we might apply three tests:—

First of all, a profession essentially involves this, that it is based on preliminary study, training and, it may be, examination on the general prnciples of the pursuit.

In the second place, a profession, I venture to think, essentially involves this, that the profits which may be made from its pursuit do not primarily depend upon the command of great quantities of capital.

Thirdly, and most important of all, a profession is a pursuit which is followed not solely as a livelihood, but always subject to over-riding duties, prescribed by a code of profesisonal honour involving in an especial degree the strict observance of confidences, in which the work that we do must be rendered to our clients' need rather than in proportion to the reward which we receive.

These wise words should be fixed in the minds of all those who are starting into the career of Public Accountant or Cost Accountant.

COST REDUCTION—EVERYWHERE—HOW ABOUT THE OFFICE?

Now that last year's closing has been finalized, no doubt, we are all very enthusiastically working on 1947 records. Can we make our 1947 office work easier and more economical in production and reduce the expense under this heading?

Many offices have useless procedures and reports, many duplications, carried along year after year. Any effort that isn't useful can be eliminated —tremendous savings can be accomplished.

The Management Review published a checklist through which office efficiency can be examined.

Adequate messenger service can eliminate much floor walking time of valuable executives and stenographers. Messengers can also serve as the extra help pool.

The office equipment, machines, should meet the highest efficiency production test.

The furniture should be adjusted for the most comfortable working conditions and postures of the staff. Height of chairs, desks and typewriters is a factor.

Supplies, stationery, etc., should be effectively distributed by messenger service. The time of clerks and stenographers is too valuable for that detail.

Small manual booklets should be provided to all the staff outlining the responsibilities of their position.

Pre-meeting agenda memos outlining the matters to be discussed, will save hours spent in discussion, at staff meetings.

CASE HISTORY No. 4509

"DITTO Eliminates Back Order Problem — Saves $10,500 Yearly!"

In this report Mr. Harry G. Beebe, Industrial Engineer, Chain Belt Company, Milwaukee, Wisconsin writes: "Week or ten days was formerly required to bill customers on partial shipments. Now, with Ditto's One-Writing Plan for back orders, we bill the customers in one day.

- Estimated clerical savings of $10,500 yearly.
- Order set Dittoed in less than a minute.
- When necessary, production copies also reproduced.
- Invoice set Dittoed through re-use of Master, without re-writing.
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- Carries through to final shipment and billing regardless of number of back orders.
- Use of Ditto holds stationery costs at a minimum.
- Cost of Dittoing remarkably low.
- Flexibility of Ditto Method proves great advantage.
- Intangible benefits more important than clerical saving."

Write today for the complete Case History of Case No. 4509 which gives complete facts on this Ditto system.

DITTO

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Filing of records and the ability or the file clerks to produce them on demand is a very timely factor. This responsibility should centre under one head.

Volume and efficient office production can best be accomplished by taking the opinions of the staff into consideration in making any office routine change. If the staff agree with any improvement, the result must be satisfactory.

Personal telephone calls of the staff should be controlled on the "honour" of each person. Telephones should be so distributed as to avoid the traffic of personnel taking time to convey information personally, which can be covered on the telephone.

Highly organized personnel should have adequate "breaks" for relaxation.

Cost Accountants can contribute to this department of the business although the application of engineering principles may be the most efficient approach to RESULTS.

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† Budgeting for Profit

By HAROLD RILEY

Engineering & Management Services Limited, Toronto

Maximum efficiency in business will not be attained until maangement adopts the principle of budgeting for a profit and utilizes in full measure the dynamic statistics furnished by the machinery of a flexible budgetary control system. Only by so doing can management find and maintain, the proper balance between production, cost, price and profit, which is the kernel of to-day's most complex and most vital problem in business. Indeed it is not one problem, nor is it only to-day's problem; it is a series of never ending problems.

An eminent New York banker* in telling what budgetary control had accomplished under his observation, said, "The banker is bound to respect and esteem the Budgetary System. He feels altogether more confidence in a customer who KNOWS ALL THE TIME WHERE HE STANDS AND WHERE HE IS GOING than in one who moves forward without plan or forecast, simply doing the best he knows HOW". (Capitals supplied). A chief executive who does not know all the time where he stands and where he is going is derelict in his duty to his stockholders, to his employees, and to the community.

As in the case of all innovations, budgetary control has met with a certain amount of resistance. This has generally been due to ignorance, misunderstanding, or prejudice. The fact remains that budgeting is here to stay. The consensus of the foremost in American industrial management is favourable to the principles of budgeting and to the use of budgetary control as an aid to management. Can we afford to ignore the remarkable

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†This is the second in a series of six articles written for "Cost and Management" by Mr. Riley.

* S. W. Sibley, Vice-President of the Bankers Trust Company, New York, "The New Way to Net Profits".

results it has achieved for them? Can the business which moves forward without plan or forecast hope to compete with the business which knows all the time where it stands and where it is going?

In any analysis of a business there are three fundamental factors:

1. What is the present position? Look at the Balance Sheet.
2. How did it arrive at such a position? Look at the Profit and Loss Statement.
3. Where is it going for in the future? Look at the Budget Control.

The Balance Sheet and Profit and Loss Statement are definitely retrospective and static. The Budget Control is prospective and dynamic; it is based on a planned forecast of anticipated business operations and results covering a definite period.

It has been said that we can determine whether a business is being well managed by discovering how accurately it anticipates business conditions. This means that management must have not only an ear to the ground but also an eye to the future. Amid the unprecedented kaleidoscopic shifting of to-day's business conditions, a dependable basis for decisions on pricing policies, long or short term financing, territorial expansion, plant expansion, and almost any other major financial problem, can only be furnished by the dynamic statistical information furnished by a variable budget system.

Should Profit Be a Matter of Chance?

The mere fact that a company has earned a profit does not necessarily signify efficient management. The test of efficient management is, how close did it come to attaining the potential profit of the business?

Management is weak in many cases because it does not know until after the close of the fiscal year what profit the business has eked out. Some are better than that because they prepare statements half-yearly. Still others have quarterly or even monthly operating statements, but frequently the cumulated profit indicated by these interim statements is badly upset by a year-end inventory adjustment.

In any event, whether a profit will be earned or not is often a hit-or-miss proposition, and almost without exception the amount of the profit is left entirely to chance. Is it not the case that, generally speaking, profit is simply whatever happens to be left over from the sales income after allowing for the cost of materials used in the goods sold, wages, factory burden, selling expense, administration salaries, other overhead expense for the period, and provisions for reserves of various kinds? If the haphazard profit warrants payment of a dividend on the company's common stock everyone seems to be satisfied. If the results are less favourable some of the employees may be fired, or perhaps nothing at all will be done, except to hope for better luck next year.

It may be somewhat of an academic point whether the main function of business is the production of goods for the benefit of society, or the earning of profit. Certainly the earning of profit is one of the main objects of business, and it is not necessary to labour the point that it would be extremely difficult to raise finances to operate a business if the profit motive were entirely absent. Accordingly, since earning profit is moral and necessary, why leave the matter entirely to chance? Would it not be much more sensible and prudent to have a definitely planned profit pro-

gram? To ensure as far as possible a satisfactory profit position is the greatest step management can take toward placing a business on a sound footing. It would represent the greatest measure of security for stockholders and employees alike. It would mean that every operation of the business would be under control.

Surely a stockholder should not have to depend on good luck for a return on his investment. Does it not seem more reasonable that management should budget for the stockholders' dividends?

Would it not be better management to determine what amount is required to provide a suitable return on the invested capital; what sum should be set aside as a reasonable reserve having regard to all the circumstances; what sinking fund provision should be made for the redemption of funded debt or other liability. This would established a definite profit goal. An equivalent amount of sales income would be earmarked as profit and management would then set about finding ways and means of solving the production-cost-price-profit equation to yield the stated amount of profit. This equation is the supreme test which management faces whether the profit is the predetermined amount or just another unknown quantity. It is a test which management cannot evade because the very circumstances of business will compel decision affecting each factor of the equation.

How can management determine what balance of production, cost, and price it must maintain to earn a given amount of profit? This would be relatively easy if only one product were handled, or if conditions remained static. However, business is not conducted on quite such a simple scale. Several lines of products having different profit rates are generally involved, prices are sometimes set by competitors, new products may be contemplated, and a host of other matters enter into the problem. Nevertheless, despite the complex nature of the situation, management can be provided with reliable data which will enable it to determine the required balance. Management also can have the requisite information to adjust the balance from time to time to meet unpredicted conditions. This data is obtained from a study of the behaviour of costs, and it forms the basis of budgeting and budgetary control.

Types of Budgets

There are two types of business budgets—the fixed budget and the variable budget. The fixed budget is static; the variable budget is dynamic.

The fixed budget formed the first step in the development of budgeting. The results obtained by businesses which adopted it between 1920 and 1940 and gave it a fair trial have proved its value beyond all shadow of doubt. The limitations of the fixed budget under present day conditions are fully realized; it can assist in planning the general policies of the ensuing period only in terms of a given volume of business. But that does not mean the fixed budget should be scrapped. At least one eminent authority on budgeting still uses the fixed budget system to guide an international organization.

The value of a budget is not only in the provisions it makes for a well planned and co-ordinated operation, but also in the comparison of actual results with forecasts. Variations between actual and budgeted

sales, and between actual and budgeted expenses, are analyzed and broken down, and where necessary corrective action is taken immediately.

Where conditions remain fairly constant, and where external influences have little bearing on the operations of the business, the fixed budget is adequate. Such conditions seldom prevail to-day. Management requires a budget which is flexible enough that it can be adjusted from time to time to meet internal and external conditions not contemplated when the budget was prepared. The same need became evident when the question of budget ing for a predetermined profit was being considered. The answer is to be found in a variable budget which takes care of the moving factors.

The variable budget will assist management in controlling costs and profits at whatever volume the business operates. Alternatively, it will show management what volume it must obtain to make a given profit and the quantity of each product which must make up the total volume.

It must not be construed that all variances of actual results from those forecast can be eliminated by using a variable budget. Practical limitations of necessity prevent the attainment of perfection in forecasting what costs should be. But this does not nullify the value of the forecast. Where minor variances occur they will have no significance. Where they are of any consequence the causes will be investigated. They might be attributable to such conditions as a decrease in the size of the average order or an increase in the proportion of special order work.

Studying the Behaviour of Costs

A study of the behaviour of costs is the basis of a variable budget, and a variable budget is the centre of a profit planning program.

The interest of management can generally be secured to investigate the possibilities of developing new products or new markets. But now often does management display interest, far less enthusiasm, in investigating the behaviour of costs. Yet the very existence of a business depends upon the behaviour of costs. Management cannot determine whether it would be profitable for a business to add new products or new markets if it does not know what effect such actions would have on the overall cost of doing business. Nor can management balance the production-cost-price-profit equation, if it does not understand what effect increased production will have on cost.

In these days of uncertain sales volume, one question that will constantly arise, is—what will costs be at different levels of production? Management can have the answers, if the industrial accountant will make the necessary study of the behaviour of costs.

The key to this study is the distinguishing between stand-by costs and variable costs. Stand-by costs are those which do not vary with volume. Variable costs are those which rise and fall with volume. Stand-by costs are related to time, variable costs to volume. This breakdown provides the factors on which costs can be projected and from which break-even and profit charts can be prepared. The break-even point can be determined for an entire business, a department, a product, or a mix of products. Surely these are figures management should have.

If management will realize that the break-even point is where a loss turns to a profit, or a profit becomes a loss, it will appreciate the im-

portance of determining where this point is, why it is at that particular point, and where it would be under different given conditions. Whether an entire variable budget system is used or not, the industrial accountant certainly should use break-even charts to enable him to furnish management with information of inestimable value in determining pricing policies and problems relating to volume.

Control Cost Before It Takes Place

Where management has to rely solely on static controls, there is A DANGEROUS TIME LAG before an occurrence which is out of line will show up. It is readily seen that a time lag of this kind may be very costly to the business. This is especially the case in periods of falling volume, when cost reductions are often weeks or months late in being put into effect. There is also a danger in times of rising volume that unwarranted increases in elements of cost will take place unless predetermined control figures have been established.

Through the study of costs behaviour and the proper interpretation of break-even charts it is possible to forecast with a reasonable degree of accuracy what "actual" costs should be for different assumed conditions. Thus, management can give to department heads, superintendents, and others, intelligent estimates of what the various expense items under their control should be, according to the conditions expected during the coming period. Furthermore, management can revise the estimates of the various expenses as soon as any change takes place in the conditions as originally forecast. In this way there is always control of expense before it is incurred. Obviously, action planned in advance is much more likely to eliminate errors than judgment made hastily under stress.

Know the Trend of the Relationship Between Sales and Cost of Sales

Most business executives are familiar with the trend of the stock market. They know whether to-day's index is up or down and what bearing to-day's trading is likely to have on to-morrow's market. Each endeavours by one means or another to ascertain the general trend of business, and, if possible, the trend of his own particular industry. This is very commendable. But how many can discern the trend in their own business to-day? How many know what effect the happenings of yesterday will have on to-day and to-morrow? Only by knowing to-day's trend can management take corrective action to prevent a time lag in expense adjustment and thereby attain maximum efficiency and profit.

It is not sufficient that management knows whether sales volume is up or down for the day, the week, or the month. It is imperative that management should also know how the characteristics of the present trend of the business are affecting the relationship between sales and cost of sales and especially whether this trend will steadily narrow the spread unless corrective action is ordered. Care must be taken that shortening price factors and lengthening cost factors do not squeeze profits to the point of elimination before management realizes what has happened. It may then be too late for remedial action. On the other hand, should the trend show a steadily increasing spread between sales and cost of sales, the causes should be weighed and in the light of the information revealed, the longer term overall policies of the business should be reviewed.

Pricing Policy

One of the perplexing problems management has to grapple with today is the determination of the price policy it should adopt. Unless it has available the cost statistics which form part of a variable budget plan, management has no basis upon which it can give intelligent consideration to such a question. There is no other satisfactory way to project product costs at different levels of output and in different combinations of products. There is no other reliable method of determining how costs will be influenced by internal and external factors.

Most businesses handle a variety of products and the rate of profit generally varies considerably for the different lines. The setting of price is rarely within the control of a single manufacturer. The product usually is put on the market in which the price is already set. The price may have been set directly by a competitor or indirectly by the consumer. Or again, management may have created its own problem by setting a low price with the object of using this article to promote the sales of other articles. No matter what has given rise to such a problem, the answer can only be found by ascertaining the mix of products which will produce the maximum profit over a period of time. This can be determined by means of variable budget statistics.

It sometimes happens in a competitive market that the management of "X" company is confused because "Y" company's price is far below the cost of manufacturing the product as reported by "X" company's accounting department. In a case of this kind it will often be found that the management of "X" company is not worried about the prices of other products sold by "Y" company. In fact, it may be that the management of "X" company knows the management of "Y" company is worried about the prices set by "X" company for some of these other products. The explanation may be quite simple. The accounting departments may use different bases in the application of overhead. Or the businesses may use different balances of products during the manufacturing cycle. It must be borne in mind that cost is affected by several factors—capacity, volume, efficiency, and time-cycle, et certera.

Management of "X" company, by using variable budget statistics, can make a study of its own situation and ascertain whether there is a more equitable basis upon which overhead may be allocated, and whether a change in the manufacturing cycle can be made to ease the overhead load of the particular product so that a more favourable overall profit may be realized.

These are matters which any management should weigh carefully before reaching a decision to discontinue the manufacture of a product because of cost.

Large Order At Lower Price

In a competitive period it is not uncommon for management to be faced with a decision whether or not to accept a large order at a price which does not cover normal costs.

During the years immediately preceding the war, many businesses found themselves in dire straits as a result of irrational prices. Price cutting was rampant—sometimes it was deliberate, sometimes innocent.

The latter is a far greater menace to business than the former. To-day there is no excuse for innocent price cutting. The facts can be known beforehand. Management can have the requisite information upon which to base its decisions regarding prices.

Static accounting cannot adequately answer the problem of whether a large order should be accepted at a lower price. This is a matter involving a change in volume and consequently the comparative figures which management requires have to be supplied by the mobile cost statistics of the variable budget.

Typical of the factors which should be taken into consideration are: Will the additional production utilize idle facilities, thereby reducing the amount of unabsorbed overhead contemplated in the present budget? Would the business be better off to increase its sales at present prices through greater selling effort? What effect would the change in relative volume of the products have on the company's ability to carry on its present (presumably profitable) operations? Does the company possess adequate facilities for the additional volume, or would additional capital expenditures be required to provide auxiliary facilities? If additional facilities are required, would they become surplus on completion of this order? Could further orders be expected? Would acceptance of the order precipitate a price war?

Other Problems Concerning Financing

The mobile cost statistics which form an important part of a variable budgetary control system have many applications, of which only a few more can be referred to briefly for present purposes. In each of the following cases management can have reliable data for its guidance.

Many concerns have emerged from the war period with greatly increased plant facilities and in order to utilize these to greater capacity management may be contemplating the manufacture of certain component parts now bought from a sub-contractor for use in the assembly of its product. This problem is similar in some respects to the "large order" problem, in that it involves consideration of the utilization of idle facilities.

Little attention has been paid in the past distribution expense, but in view of the all-round increase in costs it will be necessary to examine this item of expense very closely in future. Here again the most reliable analysis can be made by means of budgetary control statistics.

It seems almost unnecessary to state that the soundest approach to a financing program is by way of the budget. With the cost of raw materials higher than before the war, additional finances will be needed to carry material inventories. Wages and overhead costs are also up, so that work in process and finished goods will tie up a greater amount of capital than before. Selling prices are higher, consequently accounts receivable will call for additional financing. All of this may necessitate the obtaining of fresh working capital. The budget will indicate when it will be needed and whether long or short term financing should be arranged. The importance of anticipating financial requirements cannot be emphasized too strongly, because the best arrangement is not likely to be made hurriedly and under stress.

Another important calculation for some businesses in this post-war

period concerns the additional volume of sales required to earn the same profit as in the pre-war years. The mobile control statistics can supply the answer.

Conclusion

A system which by its very nature makes everyone in an organization operate within definite bounds, or give a very intelligent explanation for failure to do so, must be recognized as a system of incalculable worth and merit. It is not intended to be a handicap but a help.

A survey of the financial operations of a cross-section of Canadian industry for the fiscal year ended December 31st, 1938, or the closest date thereto, shows a somewhat astonishing situation.

Out of 145 companies covered by the survey, 94 paid no dividend on common stock.

90 of the 145 companies had preferred stock outstanding; 32 of the 90 failed to pay preferred dividends.

41 of the 145 companies had funded debt; 16 of the 41 did not meet bond interest coupons.

Would budgeting for profit have helped the managements of these companies to operate more profitably? A reasonable inference may be drawn from results shown in other cases. Two instances out of several cited by the American banker previously referred to will suffice for present purposes. These examples are taken from the difficult years following the First World War, not from the boom period which came later. The banker says:

"I have seen a company so heavily indebted to the banks that its stock-bankers dared not let it go into bankruptcy, pull out under a new management and Budgetary Control so that it paid all its debts in 1925, and earned better than 10 per cent on its common stock."

"I have seen a company so heavily indebted to the banks that its stockholders threw up their hands, requested the banks to secure new management and attempt to save a portion of their equity, transformed into a most successful operating company in less than two years, by efficient management and Budgetary Control."

How much of the improvement is attributable to new management and how much to budgetary control is impossible to tell. Clearly in the mind of this banker efficient management and budgetary control are inseparable.

It must be self-evident that a business which plans to earn a definite amount of profit—and in so doing maintain a proper balance between production, cost, price, and profit—is operating at the highest efficiency it is possible to attain.

Is management prepared to meet the challenge which the principle of budgeting for profit presents? Is management ready to set itself a goal and measure its own accomplishment? Is management interested in knowing not only how much profit it made but how close it came to attaining the potential profit of the business. If so, management will begin at once to develop a variable budgetary control system.

How well prepared are the industrial and cost accountants? Have they laid the foundation on which to erect the superstructure? The variable budgetary control system need not be elaborate, but the first requisite is

a good cost system as the value of the controls depends on the accuracy of the cost information. It takes both time and hard work to get a variable budgetary control system operating. Then it must be adjusted continually. The industrial and cost accountants are key men in the scheme because the onus of supplying management with adequate and accurate data to direct the course of industry lies squarely on their shoulders. Are they, with management, ready to raise the goal of Canadian industry to the highest measure of efficiency capable of attainment?

Business Statistics

By G. R. MUNRO, Kitchener, Branch Manager Coca Cola Ltd.

INTRODUCTION

Business Statistics has a complicated sound . . . possibly it would be much better to "translate" this subject as . . . "The Interpretation of Facts from Figures."

Because in many organization charts the position of the Statistical Department is under the Comptroller or the Accountant I wished to cover certain fundamentals in which you should be interested and some of which you may use. I do not intend to go into the details of Production and Labor Statistics because of the specialized nature of this study and the fact that in many firms they have their own particular interpretation based on their past experience.

Indexes and Averages

"Figures don't lie, but liars figure" is an expression sometimes applied to statisticians. Quite often statistical records and charts are used to prove or illustrate a point in an argument, and out of context, may seem correct. However, you do not have to be an Einstein to understand certain fundamentals which are more or less basic. For example, how often you read in the paper that the Cost of Living is up 20% . . . that Employment is down 25%, etc. The reference in both cases is to Index figures. What is an "Index" and how is it figured?

Again—you hear of the "average man" or the "average income". What does this mean?

I should like to comment on these two points briefly.

MEASURING STATISTICAL DATA—BY INDEXES AND AVERAGES

a. Indexes:

What is an index number?

Back in 1750 an Italian named Carli wanted to know the effect of the discovery of America on the price situation in Italy. To measure the price change which he knew had taken place, he obtained a representative price of each of three commodities in the years 1500 and 1750 . . . olive oil, grain and wine.

The price he expressed as 100, was the price of these commodities back in 1500. The 1750 prices were expressed relatively to the corres-

ponding prices of 1500. Carli then averaged the three percentage relatives (because that is what his mathematics had given him) and the resulting relative was the index of the price change.

For example:

Item	1500 Price	1500 Index	1750 Price	1750 Index
Olive Oil	50	100	75	150
Grain	60	100	100	166
Wine	120	100	200	167
Averages		100		161

Note: These figures are used merely as an illustration—and are not intended to be accurate to the time.

That was how the first index number was calculated and is still used to make comparisons of Prices, Living Costs, etc.

The Cost of Living Index as computed by the Dominion Bureau of Statistics is built up in the same way. The latest Index takes the years 1935 - 39 as the base or 100. From that base year they figure index numbers for subsequent years by dividing the average of the base year into the year for which the index number is desired. See Exhibit A.

b. **How Is Cost of Living Index Made Up:**

The basic costs are Food - Rent - Fuel and Light - Clothing - Home Furnishings - Miscellaneous.

The Dominion Bureau of Statistics takes a representative figure for the items and builds up indexes for each by the above mentioned method. They then make up a "Composite" which is an average of all items and call this the Cost of Living Index. Any retail prices used are supplied by the Wartime Prices and Trades Board and is therefore up-to-date.

Whenever you see a news item on the Cost of Living you will better understand its make-up and that the comparison is made with 1935 - 39 prices. With de-control in the future sometime, it will be interesting to see how this Index gyrates. It is claimed by those in favor of "de-control" that prices will rise sharply then settle down as production catches up with demand.

Before we pass on to "averages" I should mention that sometimes "weighting" is used in making up Indexes which is a method of giving more stress to items of greater importance. I shall not go into this in detail as I expect you all know something about this simple mathematical calculation.

c. **Averages:**

What is the "average income" . . . what is the "average wage" in your plant? You will immediately say . . . total the items and divide by the number. Yes, you have an average . . . known as the "Arithmetic Mean" which has a definite weakness which should be understood by your department and by your management, viz,: it is materially affected by the extreme items which are not always representative. Is that what you want . . . or do you want a more representative average?

Here's a definition . . . An Average is a single value taken to represent a group of values.

That representative value may be one of three, viz.—

The "Arithmetic Mean"
The "Mode"
The Median"

The Mean or arithmetic average is the one most commonly used and is readily understood. Its weakness is that it is affected by extremes which may or may not be important under your circumstances. You all know how to compute this average.

The Mode is widely used but not properly named usually, and understood by only a few. This is the "average man in the street" made famous by the Gallup Poll . . . the point around which the greatest values or items occur. This is not affected by extremes and is probably the average you want when the president wants you to give him the "average plant wage". But you will have to explain to him what the "modal wage" is and that it should not be mixed with the "mean."

To compute the Mode you make up a tabulation of the data into a frequency distribution and select the point of greatest density. The Median is the mid-point in an array of data. It is used most commonly when the Sales Department is measuring sales standings in contests, etc.

The uses in an organization are fairly obvious but I felt that with a better understanding of these averages you will be in better position to make up a more comprehensive presentation to your management when "averages" enter the picture.

USE OF STATISTICS

Let me give you an example of how statistical records may be used to locate a retail store.

The problem is—where will we locate our store and how much can we pay for rent if we do find the spot.

This can be handled on a hit and miss basis and may work out favorably, but the chances are that it will not.

From your records—I am presuming the Comptroller has come to your department for certain pertinent information and you have it tabulated for the Merchandising Department—you know the following to be true:

a. From the pedestrian traffic passing your location 8 - 10 hours a working day, 50% will be women and of the 50%, 14% will enter.

b. From this group 6% will buy and the average or modal purchase will be .60—so your records show from other stores.

c. You know that you can pay 5% of your Gross Sales for Rent.

From these records you can estimate your sales after you have made a traffic count and having done this in several places you can tell the best location. You can estimate your sales and the amount you can spend for rent.

This is a hypothetical case but it does parallel the method used by a large Chain Organization in the U.S. It is a good example of how statistics can be used and the liaison between the Statistical and Merchandising Departments.

BUSINESS STATISTICS

GRAPHIC PRESENTATION

The problem of making clear, concise and readable reports for senior executives is faced by every department head and I'm sure you have had that experience. Balance Sheets are being streamlined, etc.

I would like to discuss certain conventions surrounding the method of graphic presentation of Statistical Data in which you will be interested. Most senior executives are busy and have a premium on their time. Anything which will enable them to get a clear and accurate picture quickly will be greatly appreciated.

With references to a few charts which I have prepared may we discuss these conventions.

Purpose: First the purpose of the chart must be decided upon and to whom it is going. Your presentation to the Sales Department and to the Production Department will be entirely different. Do you wish to compare sizes, or do you wish to compare a series over a period of time?

There are two forms in most common use (refer to exhibits A and B)

Kinds:

Simple comparisons of size (see exhibit B) are best shown by the Bar Chart.

Comparisons over a period, Arithmetic Time Curves are best known by the time series. (See exhibit A.)

The logarithmic curve is used to measure rates of change over a period.

Let us refer to exhibit B (refer to chart).

Note clarity of Bars. (Refer to exhibit C). Now compare the Bars with other shapes—squares, cubes, and circles. See how hard it is to make quick comparisons. And it is just as difficult to make them up.

Bar Charts:

a. Two types—horizontal and vertical.
b. Note position of elements—Heading—Sub Head—Designation of Units—Scale—Source at Bottom—Initials.
c. Pictorial
   Used in magazines frequently, but generally for readability and not for accuracy.
d. Loss and Gain
   Put O line at centre with Vertical type—Loss below in red; Gain above in black.
e. Components—either by Bars or by Pie Charts (see exhibit C).

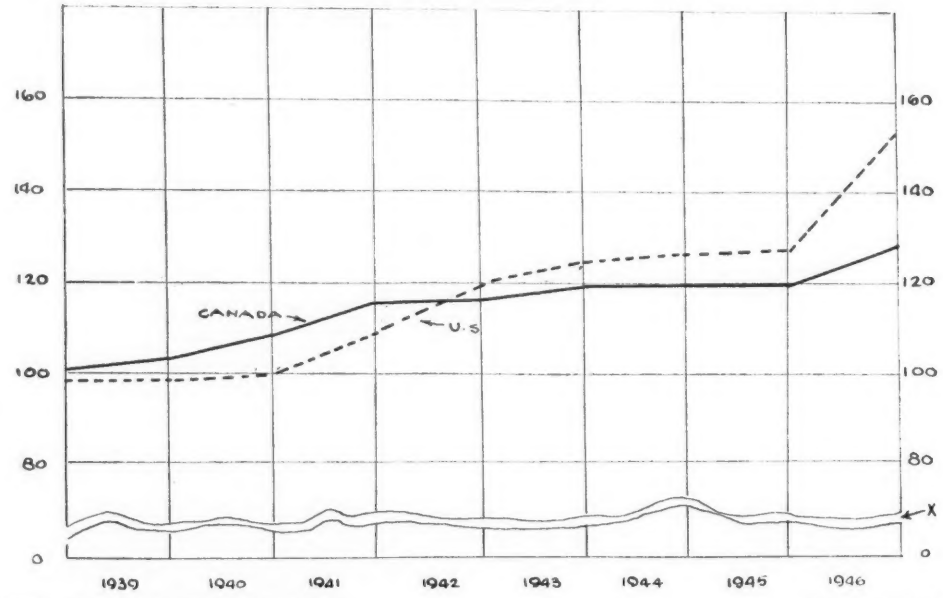
Time Charts (See exhibit A):

a. By convention the time factor is across the bottom: the other factor shown along the vertical scale. Also there should always be a O line. A broken line indicates where part is left out and must be put in so that a fair comparison can be made (see exhibit A - X).
b. Non-cumulative curves as in exhibit A, show sharp changes; cumulative curves should be smoothed. Should start at O.
c. Ideal for comparison over a period. May use either solid or broken lines for curves or colored pencil or ink.

COST OF LIVING

CANADA & U.S.

Official Indexes - 1935 - 39 = 100



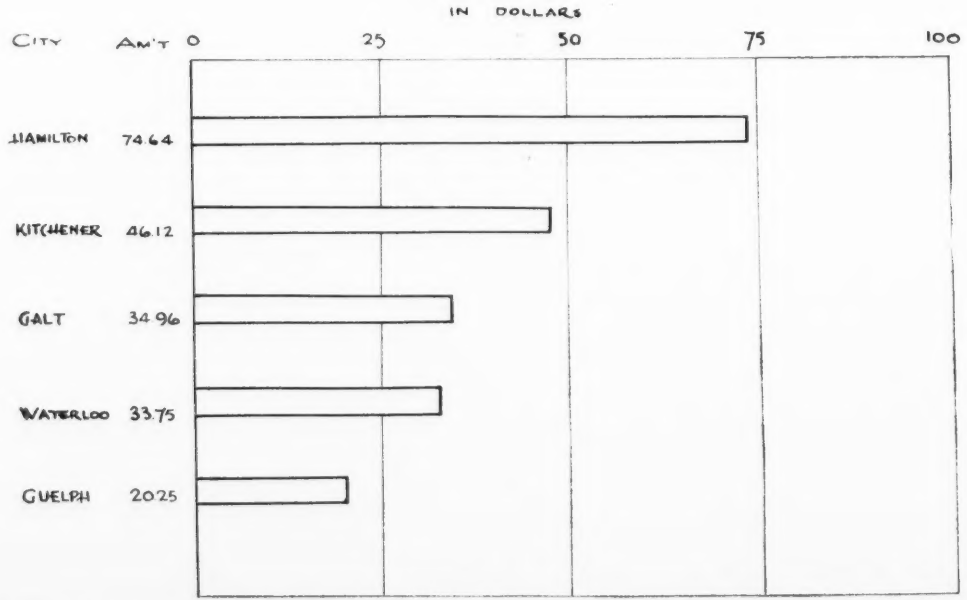
Source: Dominion Bureau of Statistics

Chart by G.R.M.

Exhibit A

NET TAX DEBT PER CAPITA

December, 1944



Source: Dominion Bureau of Statistics

Chart by G.R.M.

Exhibit B

COMPARISONS OF SIZE

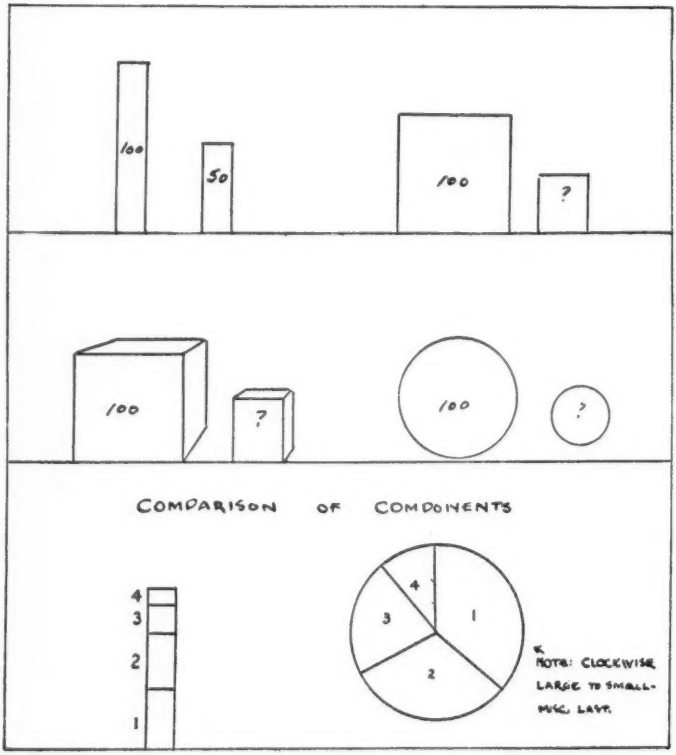
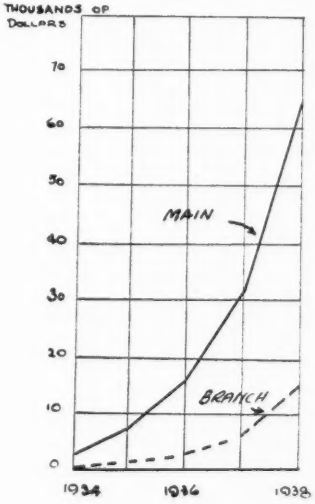


Chart by G.R.M.

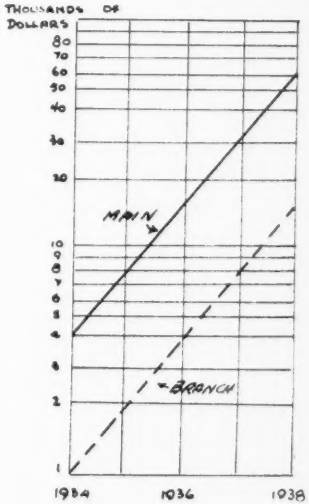
Exhibit C

COMPARISONS OF SALES
MAIN STORE AND BRANCH
1934 - 1938

A. SIZE OF CHANGE



B. RATE OF CHANGE



	MAIN	BRANCH
1934 -	$ 4.000	$ 1,000
1935 -	8,000	2,000
1936 -	16,000	4,000
1937 -	32,000	8,000
1938 -	64,000	16,000

SOURCE: RIGGLEMAN & FRISBEE - 1810

CHART BY G.R.M.

Exhibit D

d. Elements—Heading—Sub Head—Designation of Units—Scale at left. Time at bottom—Source—Initials.
e. Avoid too many curves on grid—four or five is about enough.
f. Avoid crowding scale at bottom when months used—better to leave out every other month and put in full than to use abbreviation crowded, e.g., Jan Feb Mar—JanFebMar, etc. Never use first letter, e.g. J F M, etc.

Logarithmic Charts[1]

The Logarithmic Chart show the rate of change instead of the actual size change as in the Arithmetic Chart (see exhibit D). If for example we wished to compare the growth of population in Canada over a period of years we could compare it in two ways—first, by the size of increase yearly, and second, by the rate of increase yearly. The former would be plotted on the arithmetic scale; the latter on the logarithmic scale. Another common use of the Logarithmic chart is when you wish to show grapically a wide range of values for comparison witin a small space, keeping the lower values readable. You must remember that ratios are not involved in this case.

Scales for Logarithmic Curves

The horizontal scale is ruled arithmetically while the vertical scale is ruled logarithmically[2]. The arithmetic scale shows uniform spacing for periods of time while the vertical scale shows in geometric progression the relative changes.

In reading the logarithmic curve we should remember that the rate of change is the slope of the curves. If the curve has a steeper slope in one part than in another, it means that the rate of change is higher.

Unlike the arithmetic chart there is no zero on a logarithmic chart and no base line because this scale is built on a geometric progression and although zero is approached it is never attained.

Use: The uses for this Chart are obvious—see Exhibit D for a typical comparison. Also in this exhibit you can see clearly the advantage of making your comparison on the proper basis, i.e., if you are comparing amounts you will get a far different answer than if you are comparing rates of increase or decrease.

Common Units:

In arithmetic charts you were warned never to compare data that was not homogeneous. But with comparisons where the ratios are the same and the units different, you can plot them on the same logarithmic scale.

The general presentation of a Logarithmic Chart is the same as the Time Chart in format with the main exception that there is no zero line.

Remember the Purpose—To Be Brief and Accurate.

Tabulations:

When columns of figures are to be used rule columns, space generously and line up in vertical rather than horizontal order—it is easier to read and compare in this arrangement. Group in threes and fives, etc.

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1. See Riggleman & Frisbee "Business Statistics", pps. 109-120.
2. Sometimes called "semi logarithmic" because only one scale is logarithmic.

There's a story told of an Eagle which had been captured about six years ago and kept in a rather small cage. During its imprisonment the Eagle was always bad tempered and it was thought that if it ever got away it would disappear immediately. But what happened when a sympathetic owner let it out of its cage. The Eagle had forgotten to fly. It flopped . . . beat its wings feebly and almost came back to the cage.

The Eagle may be compared to business . . . what will happen when it is let out of the cage of government control? Recently articles have appeared in several magazines and financial papers likening the present situation with that of the 1920's.

How are they comparing these two periods . . . by Time Curves which are plotted annually on certain business indicators, e.g., car loadings, bank clearings, pig iron production, retail sales, employment, etc.

These curves which are business barometers have a well defined pattern—a. The Basis or Long Time Trend.

b. Season Variation
c. Business Cycles
d. Erratic Fluctuations.

A thorough appreciation of these external factors should be considered with known internal conditions when business executives are predicting the future. A proper appreciation of all information available will considerably help when planning ahead so that when the "cage" is opened there will be no indecision by a firm that is well informed.

« STUDENT SECTION »

GENERAL ACCOUNTING

Question 6—Accounting I, 1946.

A. W. Jackson commenced business operations on January 1, 1945, having the following assets:

Cash	$ 5,000.00
Land	1,000.00
Building	10,000.00
Equipment	4,000.00

Jackson had no liabilities at that time. He carried on business during 1945, using only single entry records consisting of a cash book, an accounts receivable ledger and an accounts payable ledger.

On June 30, 1945, Jackson purchased additional equipment for $2,000.00 cash, this cash being introduced by him as a further capital contribution.

On December 31, 1945, Jackson's assets, in addition to land, building and equipment, were cash, $500.00, accounts receivable $3,800.00 and merchandise $8,600.00; his liabilities were bank loan $2,000.00 and accountants payable $5,200.00.

Allowance is to be made for depreciation of the building at 4 per cent per annum and depreciation of the equipment at 10 per cent per annum. Required:

(a) Statement of affairs, December 31, 1945.
(b) Statement showing net profit or loss for the year
(e) Journal entry to open a double entry set of accounts on January 1, 1946.

Solution:

6 (a)

A. W. Jackson

Statement of Affairs

As at December 31, 1945

Current Assets			**Current Liabilities**		
Cash		$ 500.00	Bank Loan		$ 2,000.00
Accounts Receivable		3,800.00	Accounts payable		5,200.00
Merchandise		8,600.00			$ 7,200.00
		$ 12,900.00			
Fixed Assets					
Land		1,000.00	**Net Worth**		
Building	10,000.00		A. W. Jackson, Capital		21,800.00
Less: depreciation	400.00				$ 29,000.00
		9,600.00			
Equipment	6,000.00				
depreciation	500.00				
		16,100.00			
		$ 29,000.00			

6 (a)

A. W. Jackson

Statement of Profit or Loss

For the year ending December 31, 1945

Net Worth, January 1, 1945		$ 20,000.00
Add Capital contributed June 30, 1945		2,000.00
		$ 22,000.00
Deduct Net Worth, December 31, 1945		21,800.00
Net loss for the year	$	200.00

6 (c)

Cash	$ 500.00	
Accounts receivable	3,800.00	
Merchandise inventory, December 31, 1945	8,600.00	
Land	1,000.00	
Building	10,000.00	
Equipment	6,000.00	
To Bank loan		2,000.00
Accounts payable		5,200.00
Reserve for depreciation—Building		400.00
Reserve for depreciation—Equipment		500.00
A. W. Jackson, capital		21,800.00

Opening accounts as at January 1, 1946.

Comments.

6 (a)—Required; Statement of Affairs, December 31st, 1945.

Both the Balance Sheet and the Statement of Affairs, are statements of financial condition. The differences between the two are generally indicated by the following:

1—The balance sheet is prepared from the viewpoint of a going concern; the statement of affairs is prepared from the viewpoint of liquidation.

2—In the balance sheet, the Assets and Liabilities are classified on a going-concern basis, as fixed, current, deferred and so forth; in the statement of affairs, the liabilities are classified as prior, fully secured, partially secured, and the assets are classified to indicate those which have been pledged with creditors and those which are free.

3—In the balance sheet, the assets are stated at going-concern values; in the statement of affairs, they are stated both at going-concern values and at estimated realizable values.

The suggested solution is just a statement. The examiner is satisfied to give full marks on any reasonable statement. In such a case, it should be noted for the attention of the examiner that a statement of financial condition is being submitted, since the figures do not indicate insolvency. This will prove to the examiner that you are aware of the conditions accompanying a "statement of affairs."

6 (b)—Since a profit and loss showing for the year is required, and since this appears to be a proprietorship, the profit or loss will be the difference in the net worth after giving effect to the transactions noted in the problem. As the student advances in accounting these points will become clearer, the elementary student will be given credit for the result stated somewhat like the suggested solution.

6 (c)—The opening journal entry problem is quite common and is essentially the setting up of assets and liabilities from the facts given. The difference being the proprietor's equity. There should be little difficulty in classifying assets as debits and liabilities, reserves and capital as credit entries and arranging them in journal entry form. Full explanations should be given with every journal entry. The suggested solution is one which might be expected.

COST ACCOUNTING

Comments by Mr. A. VAN HARRIS, C.A.

PROBLEM 1

The Chemical Distillery Company manufacture a series of liquid and powdered raw material, which require six progressive processes stages A, B, C, D, E and F, and from which emerge at "stage C" two by-products designated as No. 1 and No. 2, and at "stage F" one by-product and two main co-products, designated as No. 3, No. 4 and No. 4A respectively. Raw materials are added in stages A, B and C and in all stages of process there are labour and overhead charges applicable. The by-products require further processing to make them marketable, except No. 1, which is sold as scrap.

Write a memorandum describing fully how each of the above co-products and the three by-products might be costed, indicating at least three methods of accounting for the by-products.

Solution to Problem 1

The memorandum should include the following data:

(a) When the market value of the by-product is treated as a reduction of the cost of the main product.

Material, Labour and overhead should be applied in all six stages of manufacture, where applicable, and the market value of the by-products should be credited back to the cost of the main product. These credits might be applied at stages C and F, where the by-products emerged, or credited to the total costs which were allocated to the main products resulting from stage F. It is doubtful if any advantages are to be gained by segregating the further costs of processing the by-products, although this could be done and applied against the market value.

The accounting entries would be to charge stores account and credit Work in Process (at whichever stage it was desirable to apply this credit) at the market price of the goods in question or at market price less additional processing charges.

(b) When the selling price of the By-product is treated as an additional profit.

As in the above method material, labour and overhead should be applied in all six stages, where applicable. The costs of the by-product up to the point of their separation from the main products would not be segregated. However, costs for finishing the by-product 2 and 3 could be charged to "By-Product Processing Account", and the credit on the sale of the three by-products, less this account transferred to Profit and Loss.

(c) When the cost before separation is apportioned partly to the by-product, and when the net profit from the by-product sale is treated as an additional profit.

For Process A, charge Material, Labour and overhead, transferring the total production costs of processed product on to Process B.

For Process B, add Material, Labour and overhead, transferring the total productions costs, including that brought forward from Process A, to Process C.

For Process C add, Material, Labour and overhead. Transfer on a prorated basis to By-Product Costs No. 1, By-Product Costs No. 2 and Process D, the costs applicable to finished production.

For the processes D and E. Add Labour and overhead, transferring costs applicable to finished production to the next department.

For Process F, add Labour and overhead. Transfer on a prorated basis to By-Product Costs No. 3, and Finished Goods No. 4 and No. 4A.

Additional costs of finishing By-Products No. 2 and No. 3 would be added to the Process accounts. These costs would offset the sale price and the Profit or Loss on the by-product trading would be transferred on to Profit and Loss.

The form and style of presenting the information should, of course, be as polished as possible. While the above outline is a suggested one, from which the memorandum could be expanded, it would be quite satisfactory to deal with the matter on a product basis, rather than under a process basis.

PROBLEM 2

The following is a partial trial balance of a factory ledger as at March 31:

Work in Process	—Labour	$ 20,352	
	—Materials	16,000	
	—Overhead	13,810	
Power Expenses	—Coal, Labour, etc.	2,000	
Building Charges	—Depreciation, Taxes, Insurance, etc.	4,000	
Indirect Labour		5,088	
Factory Office Expenses		2,772	
Applied Overhead	—Department A		6,500
	—Department B		7,310
Balance			50,212
		$ 64,022	$ 64,022

Information Given

	Power House	Productive Dept. A	Productive Dept. B
Floor space occupied	500 sq. ft.	750 sq. ft.	750 sq. ft.
Productive Labour		$ 6,768	$ 13,584
Direct Materials		13,000	3,000
Productive Labour Hours		3,500	6,000
Power Produced Used		60%	40%
Overhead Rates in Use per $1.00 of direct materials		50c	
per productive labour hour			1.26

Indirect labour is used in direct ratio to the cost of direct labour.

Required

(1) Distribution Sheet showing distribution of overhead expenses over productive and non-productive departments.

(2) Your calculation of the actual overhead rates for the period.

(3) Necessary journal entries to adjust the estimated overhead charges to the actual charges and to close out these overhead accounts.

Solution to Problem 2

Distribution Statement

	Power House	Productive Dept. A	Productive Dept. B
Power Expense, coal, labour, etc	$ 2,000	$.....	$.....

Building Charges, Depreciation, Taxes, insurance, etc. (25% - 37½% - 37½%)	1,000	1,500	1,500
Indirect Labour (Direct Labour)		1,692	3,396
Factory Office Expense (expenses already allocated)	750	798	1,224
	3,750	3,990	6,120
Division of Power House expense		2,250	1,500
		$ 6,240	$ 7,620

(2) Calculation of Actual overhead rates for period.

Rate per $1.00 of direct materials in Department A — $\frac{6240}{13000} = .48$

Rate per productive labour hour in Department B — $\frac{7620}{6,000} = \$1.27$

(3) Journal Entries.

Manufacturing Expense—Power House	3,750	
—Productive Dept. A	3,990	
—Productive Dept. B	6,120	
Power Expense		2,000
Building Charges		4,000
Indirect Labour		5,088
Factory Office Expense		2,772
Distribution of overhead expenses per schedule.		
Manufacturing Expense—Productive Dept. A	2,250	
—Productive Dept. B	1,500	
—Power House		3,750
Distribution of Power house expense.		
Applied overhead Dept. A	6,500	
Dept. B	7,310	
Manufacturing Expense—Productive Dept. A		6,500
Productive Dept. B		7,310
Transfer of applied overhead to actual.		
Work in Process overheads	310	
Manufacturing Expense—Productive Dept. B		310
Additional overhead for period.		
Manufacturing Expense—Productive Dept. A	260	
Work in Process Overhead		260
Overapplied overhead for period.		

Comments on Problem 2

This problem is a very simple one, but there are sufficient items in it which require selection by the student, from which the individual's cost accounting knowledge is required.

In the solution one variation which might be found would be to apply the factory office expense between the two productive departments only, rather than among all three departments. In so doing, slight variations in unit cost result, as do also the amount applicable to the several journal entries.